

REMARKS

Claims 8-17 are pending in the present application. Claims 8 and 10-16 were rejected under 35 U.S.C. §103 (a) as being unpatentable over European Patent No. EPO 0560696 in view of Chien et al., U.S. Patent No. 5,196,815. Claims 9 and 16-17 were rejected under 35 U.S.C. §103 (a) as being unpatentable over EPO 0560696 in view of Chien et al. as applied to claim 8, and further in view of Stieglitz, U.S. Patent No. 5,428,883. The drawings were objected to.

A corrected Fig. 1 is submitted herewith.

Objection to the Drawings

The Examiner has objected to the drawings because cut-away views of insulative portions, such as housing modules 2 and 3, should be cross-hatched as such. The Examiner has indicated that the proposed drawing correction filed on May 27, 2003 is approved. A corrected Fig. 1 is submitted herewith.

Withdrawal of the objection to the drawings is respectfully requested.

Rejection under 35 U.S.C. §103 (a) to claims 8 and 10-16

Claims 8 and 10-16 were rejected under 35 U.S.C. §103 (a) as being unpatentable over European Patent No. EPO 0560696 in view of Chien et al., U.S. Patent No. 5,196,815.

EPO 0560696 shows a circuit breaker having a rotary contact member 44 and a pair of u-shaped stationary contacts 24, 25 disposed in receptacles within an interrupter chamber housing 10. See Fig. 1.

Chien et al. describes a miniature circuit breaker having a fixed contact structure placed close to, or embedded within second housing wall portion 22. The fixed contact structure in the form of a loop having leg portions 38 and 40. See Fig. 1 and Col. 4, lines 18-24.

Independent claim 8 of the present application recites a circuit breaker including “a busbar imbedded into the outside wall and in contact with the outside wall over a large surface of the busbar.” As noted by the Examiner, EPO 0560696 does not disclose the busbar being force fit within the outside wall. See Office Action, page 3, lines 6-7.

It is respectfully submitted that a suggestion or motivation to combine the EPO 0560696 and Chien et al. references has not been shown--a *prima facie* case of obviousness has not been established. The Examiner states that “A skilled artisan would have been motivated to seek mounting designs [of] various breaker designs to secure the bus bars in place, such as the use of force fit like that shown by Chien et al.” See Office Action at p. 5, second paragraph. But the Examiner offers no support for this statement.

The “prior art must suggest the desirability of the claimed invention.” See MPEP 2143.01. It is respectfully submitted that one of skill in the art would have had no reason to look to Chien et al. since the EPO 0560696 device apparently functions satisfactorily for its intended purpose. Neither EPO 0560696 nor Chien et al. evidences a recognition of a primary problem addressed by the present invention--dissipation of heat generated by the busbars. See specification at paragraph 0003. EPO 0560696 shows loop-shaped busbars (u-shaped stationary contacts) 24, 25 inserted into receptacles in housing 10, leaving gaps between the busbars and the housing. See Fig. 1. As indicated in the present specification, heat generated during normal use of the busbars is transferred to the interrupter chamber housing relatively slowly because of the air surrounding the busbars is a poor heat conductor. See specification paragraph 0002. There is

no reason to assume that EPO 0560696 includes any recognition of heat dissipation problem. As for Chien et al., this reference nowhere mentions heat dissipation.

There is no motivation or suggestion to combine the EPO 0560696 and Chien et al. references. It is respectfully submitted that combining these references constitutes impermissible hindsight reconstruction of the present invention.

For at least the reasons stated above, withdrawal of the rejection of claims 8 and 10-16 under 35 U.S.C. §103 (a) based on EPO 0560696 in view of Chien et al. is hereby respectfully requested.

Rejection under 35 U.S.C. §103 (a) to claims 9 and 16-17

Claims 9 and 16-17 were rejected under 35 U.S.C. §103 (a) as being unpatentable over EPO 0560696 in view of Chien et al. as applied to claim 8 above, and further in view of Stieglitz, U.S. Patent No. 5,428,883.

Stieglitz describes a process for manufacturing an electromagnetically actuated fuel-injection valve. At least a part of a valve sleeve 8 and a complete housing cover 13 are surrounded by a plastic extrusion coat 58. Also premolded at the same time on the extrusion coat 58 is an electrical power plug 18, through which pass electrical contacts (apparently contact tags 17--See col. 2, line 66) coupled to a solenoid 2. See col. 4, lines 55-60, and Fig. 1.

Dependent claim 9 of the present application recites a circuit breaker “wherein the busbar is imbedded into the outside wall by an injection molding process using the plastic material.” Independent claim 16 recites a method for manufacturing a circuit breaker, the method including “injecting the plastic material into the mold so as to surround a large surface area of the busbar.”

As noted by the Examiner, EPO 0560696 does not teach the stationary contact assembly being injection molded within the outside wall. See Office Action , page 3, lines 18-19.

It is respectfully submitted that Stieglitz does not teach or suggest the above-recited respective “injection molding” and “injection” features of claims 9 and 16. Stieglitz refers to a plastic extrusion coat 58 and an electrical power plug 18 which is “premolded” and through which pass electrical contacts, but nowhere teaches imbedding by injection molding or injecting so as to surround, as recited in claims 9 and 16, respectively. Stieglitz nowhere teaches how contact tag 17 is placed in electrical power plug 18. Indeed, contact tag 17 could be inserted through an orifice in power plug 18 after the molding of power plug 18. In any case, Stieglitz does not teach “injection molding” or “injection” as recited in claims 9 and 16, respectively.

Nor does the Chien et al. reference anywhere teach or suggest the respective “injection molding” and “injecting” features of claims 9 and 16. Since at least the respective “injection molding” and “injecting” features of claims 9 and 16 are missing from each of EPO 0560696, Chien et al. and Stieglitz, it is respectfully submitted that a combination of these references could not teach these features.

The above notwithstanding, it is respectfully submitted that Stieglitz has nothing to do with circuit breakers, but rather with the automotive fuel injection art. One of skill in the art would not have looked to Stieglitz to solve a primary problem addressed by the present invention--dissipation of heat generated by busbars in a circuit breaker. See specification at paragraph 0003. It is respectfully submitted that attempting to combine Stieglitz with EPO 0560696 and Chien et al. is improper, and constitutes an attempt at impermissible hindsight reconstruction of the present invention.

The Examiner states that it would have been obvious to use an injection molding process for the contact assembly of EPO 0560696, as modified, for the purpose of rigidly supporting the contact assembly withing the housing and simplifying construction. See Office Action, page 4, second paragraph. Insufficiently rigid support of the busbars is nowhere mentioned in EPO 0560696, Chien et al. or Stieglitz as a problem requiring a solution. Nor do any of these references indicate that injection molding would provide rigid support. Therefore there would have been no motivation for one of skill in the are to combine the references for achieving rigid support of the busbars.

Moreover, it is respectfully submitted that there is no teaching or suggestion in any of the above references to indicate that using an injection molding process for the busbars would simplify construction of the circuit breaker. On the contrary, the prior art method of inserting the busbars into pre-existing receptacles of the housing (see specification at paragraph 0002) might in fact be simpler, but produce a less desirable result, than the claimed use of injection molding. In any event, there is no indication provided in any of EPO 0560696, Chien et al. or Stieglitz that using injection molding to affix the busbars in the housing is simpler than placing the busbars into receptacles in the housing. Therefore there would have been no motivation based on these references for one of skill in the art to use an injection molding process as claimed.

For at least the reasons stated above, withdrawal of the rejection of claims 9 and 16-17 under 35 U.S.C. §103 (a) based on EPO 0560696 in view of Chien et al. as applied to claim 8 above, and further in view of Stieglitz, is hereby respectfully requested.

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CONCLUSION

It is respectfully submitted that the application is now in condition for allowance.

Respectfully submitted,

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